

The Builder.

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THE social reforms needed for the preservation of the public health, and the advancement of the general welfare, appear to have taken a considerable hold upon the public mind. Various societies are working sedulously to advance them; deputations go to prime ministers; and reports of committees fly about in all directions.

We have the Health of Towns Association; the Health of London Association; the Metropolitan Working Classes Association for Improving the Public Health; the Society for the Abolition of Burials in Towns,* and others; and if some important result be not speedily effected, our faith in the strength of public opinion will be lessened considerably.

The report of the Health of Towns Association on Lord Lincoln's drainage bill, while reviewing this bill and pointing out forcibly its inadequacy in many respects, gives a general and most important view of all the matters affecting the sanitary condition of the metropolis; and, if extensively circulated, must effect much good. The intensity and mortality of disease have increased, and are increasing, through neglect of efficient drainage, well arranged streets and houses, proper cleansing, a due supply of water, want of ventilation and other sanitary arrangements, all obtainable for the whole population. It is proclaimed in language not to be misunderstood, that *every day's delay in the adoption of these measures costs the lives of 134 persons in England alone!*†

The report dwells with great severity on the mischief which has been done by the Westminster Court of Sewers, and on the enormous sums of money which have been spent by the commission uselessly. The reduction recently made by this commission in the cost of sewers, will prove of great advantage to the public. Their duty unquestionably is to afford every facility for drainage, to induce by all means in their power the construction of sewers; and we have a strong conviction that great changes are even yet necessary in the constitution of the commission, and its motives of action. We hope before long to test the value of our opinion by an examination of the powers under which the court acts.

* The address of this society, just now issued, says:—"The sanitary condition of the people, so long neglected, has at length excited some degree of attention. Yet one of the most important subjects connected with the health of the inhabitants of large towns, has been unaccountably overlooked. No one presumes to deny the poisonous effects of decaying animal substances; more powerful, more dangerous, more deadly, than *neglectable* exhalations, they manifest their agency in the production of sudden death—in the development of disease which too often baffles medical skill—and in the slow but certain destruction of those who are more constantly exposed to their influence. It is necessary to state that the overcharged grave-yards which exist in the midst of this crowded metropolis, and in all large towns throughout the empire, are a chief source of these animal exhalations? Is it necessary to re-affirm that the moral and physical evils connected with the practice of intra-mural sepulture must *inevitably* continue so long as we continue to inter unlimited numbers of dead bodies in limited spaces of ground? It may be demonstrated that an acre of earth is capable of affording decent interment every year to 134 bodies, or thereabouts. In many of the parochial and other burial grounds, each acre of land is compelled to receive annually more than one thousand bodies, some even two or three thousand, every year!"

† "This high mortality has been traced to crowded lodgings, dirty dwellings, personal uncleanness, and the concentration of unhealthy emanations from narrow streets, without fresh air, water, or sewers; the rapidity of decomposition, and the facility with which all kinds of animal matter become tainted and run into putrefaction, enable us to understand how, in a summer like the past, in which the temperature was unusually high, the disease was so prevalent and fatal."—Report of the Registrar-General.

The construction of drains, and the means of efficiently trapping them, to keep back noxious gases, require early attention. It is an error to suppose that the interposition of water is a sufficient protection against the escape of noxious gases from sinks and cesspools; such is not the fact; as soon as the water is saturated with the gas, it escapes into the house or street, to the injury of the health of the inhabitants; yet builders rely wholly on the efficacy of water in preventing these emanations.

One of the prominent objects of Lord Lincoln's bill is, to remedy the present extremely defective supply of water for domestic uses; and the committee in their examination of the bill go fully into this question. Evidence is adduced to shew the great superiority of a constant over an intermittent supply of water as now furnished.

"The present daily consumption of water in the metropolis is equal to the contents of a lake fifty acres in extent, of a mean depth of three feet. The intermittent mode of supply having been universally adopted, there arises the necessity of receptacles to receive this mass of water, at the times when it is pumped out, and to retain it until it is wanted. Let the mind dwell for a moment on what the expense of these vessels must be. The actual cost for butts, tanks, and cisterns, is estimated at two millions of money; and those who have attentively considered the subject believe that this estimate is too low. It has been shewn that these receptacles are at once unnecessary and pernicious. On these grounds her Majesty's commissioners protest against the continuance of the intermittent system, and declare their opinion, that 'the system of constant supply offers advantages for the introduction of water into all houses which are unobtainable by any other mode.' It cannot but be useful to direct attention to the evidence on which the soundness of this conclusion is established; and the following may be taken as examples of the statements and opinions of the chief authorities on the subject.

First, by the mode of constant supply at high pressure, the water is preserved in a state of purity. 'All the evils arising from the want of proper receptacles for water,' says Mr. Hawkey, 'from neglect in cleaning the tanks and water butts, and from the accumulation of soot, dust, and other impurities in them, are completely removed by keeping the pipes constantly full. The effect of this arrangement is to substitute one large reservoir or tank well constructed, well situated, and under effectual care, for the many thousand ill-constructed, ill-placed butts and tanks, requisite to afford a copious supply on the common arrangement. It also prevents the impregnation of water with gas, which often takes place when the water is supplied on the intermittent system.'

'A never-failing and uninterrupted flow direct from the main,' says Dr. Playfair, 'is not liable, as in the case of collected water, to acquire a temperature unpleasantly high, and is secured from the absorption of vitiated air and unpleasant effluvia, to hasten the decomposition of the small amount of organic matter generally existing in water.'

Many evils result from the want of water. "The obstacles to the maintenance of domestic or personal cleanliness soon produce habits of personal carelessness, which rapidly lower both the moral and physical condition of a whole population."

Improvement too, is needed in the mode of laying gas-pipes. The water is injured, says Mr. Mylne, by the gas which escapes, and the sewers are rendered dangerous.

Amongst the errors and defects of the Bill, the committee name:—

"Neglecting to make it compulsory on water companies to give the public a constant instead of an intermittent supply, and to deliver it in all cases at as high a pressure as is practicable.

Neglecting to make it compulsory on water companies either to filter the water or to provide a sufficient area of depositing bed.

* Report of Poor Law Commissioners.

The omission absolutely to forbid the construction of cesspools in all new dwellings, and to provide for the compulsory removal of all existing cesspools as soon as the general introduction of sewers and drains, combined with an adequate supply of water, shall have rendered the universal adoption of the water-closet apparatus practicable.

Neglecting the entire subject of ventilation, one of fundamental importance in a sanitary measure.

It is not necessary to point out the great value of the constant supply for the prevention of fires. It is stated, that under this system at high pressure, even the smallest street might be supplied with a three-inch main, affording at least one 40-foot jet, which is equivalent to keeping the power of one engine and twenty men at every door, to act at one minute's notice after the first alarm of fire. In fact, no town ought to be considered fully supplied with water unless the pipes are kept constantly full, and arrangements are made by which a powerful force of water can be taken from them, at a minute's notice, to extinguish fire at any part of the town, high or low.

The mode of intermittent supply ought to be immediately abandoned, and the constant supply introduced, as the most effective, and, moreover, the most economical.

The importance of ventilation, to which reference is omitted in the bill, is forcibly dwelt on by the Committee, and at considerable length.

"The general introduction of an efficient mode of ventilation in dwelling-houses, and especially in the abodes of the poor, would be attended with beneficial results far beyond what it is possible to estimate; still, however, the adoption of compulsory provisions for this purpose may not be expedient, on account of the interference with the privacy of domestic life, which the enforcement of any such legislative enactments must involve. But this objection does not apply to buildings intended for public resort, such as churches, courts of justice, concert and assembly rooms, theatres, houses and rooms for the public use of which a license is required, factories already under government regulation and inspection, workshops, in which great numbers of work-people habitually assemble, lodging-houses, and schools. The introduction, in a general sanitary measure, of compulsory provisions for the purpose of securing proper ventilation in all places of this description, appears to be justified by the absolute necessity of the case, and to be free from any objection in principle."

The repeal of the window-tax is another part of the same great question, and should be loudly called for from every quarter. As was said at a meeting of delegates from various metropolitan parishes held last week, it should be repealed if it were only for its inequality and injustice, pressing, as it does, upon those who are the least capable of paying it. In a sanitary point of view, however, repeal of this abominable tax is imperatively necessary, operating, as it does, most injuriously on the comfort, health, and morality of the people. It positively offers a premium for the defective and vicious construction of houses, and tends to create those abodes of filth and disease which disgrace our land. The necessity of ventilation, and the advantages of light, are not felt sufficiently to induce the payment of even so many shillings a year; and cellars, privies, and staircases are left to be magazines of deleterious air, even in the houses of the middle classes.

Houses having less than eight windows are exempt from the duty; "but the window-tax," says Mr. Hickson, "is not therefore inoperative as it regards the working classes of towns. In London the poor do not live in cottages, but several families occupy lodgings in the same house, and that perhaps a house built